What is claimed is:

1. A method of reducing or preventing oxidative stress-associated cell death, the method comprising:

selecting an individual diagnosed as having or being at risk of contracting a disorder characterized by excessive oxidative stress-associated cell death; and

administering to the individual a composition comprising an N-phenyl-2-pyrimidine-amine in an amount effective to reduce or prevent oxidative stress-associated cell death in the individual.

2. The method of claim 1, wherein the N-phenyl-2-pyrimidine-amine is 4-[(4-Methyl-1-piperazinyl)methyl]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino-]-phenyl] benzamide methanesulfonate.

3. The method of claim 2, wherein the individual has been diagnosed as having a disorder characterized by excessive oxidative stress-associated cell death.

4. The method of claim 2, wherein the individual has been diagnosed as being at risk of contracting a disorder characterized by excessive oxidative stress-associated cell death.

5. The method of claim 2, wherein the individual has been diagnosed as having a neurological disorder.

6. The method of claim 5, wherein the neurological disorder is Alzheimer's disease, Parkinson's disease, Huntington's disease, amyotrophic lateral sclerosis, multiple sclerosis, retinitis pigmentosa, or spinal muscular atrophy.

7. The method of claim 6, wherein the individual has not been diagnosed as having chronic myelogenous leukemia.

8. The method of claim 6, wherein the individual has not been diagnosed as having a cancer.

9. The method of claim 5, further comprising administering to the individual a second therapeutic compound, wherein the second therapeutic compound reduces or prevents symptoms of the neurological disorder.

10. The method of claim 9, wherein the second therapeutic compound is riluzole, tacrine, donepizil, carbidopa/levidopa, carbidopa/levidopa sustained release, pergolide mesylate, bromocriptine mesylate, selgiline, amantadine, or trihexyphenidyl hydrochloride.

11. The method of claim 9, wherein the second therapeutic compound is a dopamine receptor antagonist.

12. The method of claim 9, wherein the second therapeutic compound is a glutamate excitotoxicity inhibitor, growth factor, nitric oxide synthase inhibitor, cyclo-oxygenase inhibitor, ICE inhibitor, neuroimmunophilin, N-acetylcysteine, procysteine, antioxidant, or lipoic acid.

13. The method of claim 5, further comprising carrying out a neurological test on the individual after administering the composition to the individual.

14. The method of claim 13, further comprising again administering the composition to the individual after carrying out the neurological test, wherein the

amount of the composition administered in the second administration is determined at least in part based upon results obtained from the neurological test.

15. The method of claim 2, wherein the individual has been diagnosed as being at risk of contracting a neurological disorder.

16. The method of claim 15, wherein the neurological disorder is Alzheimer's disease, Parkinson's disease, Huntington's disease, amyotrophic lateral sclerosis, multiple sclerosis, retinitis pigmentosa, or spinal muscular atrophy.

17. The method of claim 2, wherein the disorder is caused by an ischemia/reperfusion injury.

18. The method of claim 17, wherein the individual has been diagnosed as having had a myocardial infarction or stroke.

19. The method of claim 17, wherein the individual has undergone or is undergoing an organ transplant surgery.

20. The method of claim 17, wherein the individual has undergone or is undergoing coronary bypass surgery.

21. The method of claim 17, further comprising administering to the individual a second therapeutic compound, wherein the second therapeutic compound reduces or prevents symptoms of the disorder.

22. The method of claim 21, wherein the second therapeutic compound is a thrombolytic or an anticoagulant.

23. The method of claim 17, further comprising carrying out a test for ischemia/reperfusion injury on the individual after administering the composition to the individual.

24. The method of claim 23, further comprising again administering the composition to the individual after carrying out the test for ischemia/reperfusion injury, wherein the amount of the composition administered in the second administration is determined at least in part based upon results obtained from the test for ischemia/reperfusion injury.

25. The method of claim 2, wherein the individual has been diagnosed as having an inflammatory disorder.

26. The method of claim 25, wherein the inflammatory disorder is arthritis.

27. The method of claim 2, further comprising evaluating the viability of a neurological or cardiovascular tissue of the individual following the administration of the composition to the individual.

28. The method of claim 2, wherein the composition is administered to the individual by injection.

29. The method of claim 2, wherein the composition is administered to the individual via a catheter.

30. A method of preventing or reducing cell death in a cell population, the method comprising:

providing a cell population; and

contacting the cell population with a composition comprising an N-phenyl-2-pyrimidine-amine in an amount effective to prevent or reduce cell death in the cell population.

31. The method of claim 30, further comprising determining the viability of the cell population, wherein the viability of the cell population is increased as compared to the viability predicted in the absence of contacting the cell population with the composition.

32. The method of claim 31, wherein the N-phenyl-2-pyrimidine-amine is 4-[(4-Methyl-1-piperazinyl)methyl]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino-]-phenyl] benzamide methanesulfonate.

33. The method of claim 32, wherein the cell population does not comprise cancer cells.

34. The method of claim 32, wherein the cell population does not comprise chronic myelogenous leukemia cells.

35. The method of claim 33, wherein the cell population comprises neural cells.

36. The method of claim 33, wherein the cell population comprises cells that have undergone an ischemia/reperfusion injury.

37. A method of reducing or preventing aging-related cellular degeneration in an individual, the method comprising administering to the individual a composition

comprising an N-phenyl-2-pyrimidine-amine in an amount effective to reduce or prevent aging-related cellular degeneration in the individual.

38. The method of claim 37, wherein the N-phenyl-2-pyrimidine-amine is 4-[(4-Methyl-1-piperazinyl)methyl]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino-]-phenyl] benzamide methanesulfonate.

39. The method of claim 37, wherein the individual has not been diagnosed as having chronic myelogenous leukemia.

40. The method of claim 37, wherein the individual has not been diagnosed as having a cancer.

41. A kit comprising a composition comprising an N-phenyl-2-pyrimidine-amine and written instructions for use to reduce or prevent aging-related cellular degeneration or treat a disorder characterized by excessive oxidative stress-associated cell death.

42. The kit of claim 41, wherein the written instructions are for use to treat a neurological disorder.

43. The kit of claim 41, wherein the written instructions are for use to treat a disorder caused by an ischemia/reperfusion injury.

44. The kit of claim 41, wherein the N-phenyl-2-pyrimidine-amine is 4-[(4-Methyl-1-piperazinyl)methyl]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino-]-phenyl] benzamide methanesulfonate.

45. A pharmaceutical composition comprising an N-phenyl-2-pyrimidine-amine and a second therapeutic compound that is effective for the treatment of a disorder characterized by excessive oxidative stress-associated cell death.

46. The pharmaceutical composition of claim 45, wherein the disorder is a neurological disorder.

47. The pharmaceutical composition of claim 45, wherein the N-phenyl-2-pyrimidine-amine is 4-[(4-Methyl-1-piperazinyl)methyl]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino-]-phenyl] benzamide methanesulfonate.